

***Clean Version Of The Amended Claims Using The Original Numbers***

This listing will replace all prior versions, and listings, of claims in the application: Even though a clean copy is no longer required, because of the extensive amendments in the claims, this clean version of the amended claims is enclosed for reference when examining the marked-up amended claims required by 37 CFR 1.121(b)(1)(ii).

We claim:

1) A bone stabilizing system, having a rigidizing plate with holes and two or more bone screws, for the purpose of fixing one bone segment, within a bone column, with respect to one or more other bone segments or an implant within the bone column, the stabilizing system containing:

(a) the bone screws, with a head portion having a driving feature which is engaged by a driving tool, a plate shank portion, a threaded portion, and a bone shank portion extending through the plate holes and a machined and threaded holes in the bone into the underlying bone for a distance of 1mm or greater, and

(b) the rigidizing plate, with holes to receive the bone screws for the purpose of retaining the plate to the bone segment, and

(c) the bone screw's plate shank portion, is configured and sized to make an interference fit within the plate holes and the screw's bone shank portion is configured and sized to make an interference fit within the bone shank portion of the machined holes in the bone segments.

2. (canceled)

3. The bone stabilizing system of claim 1, wherein the interference fit portion of the bone screws contain one or more locking tapers which extend into the bone and engage mating tapers in the bone.

4. (currently amended) The bone stabilizing system of claim 3, wherein a portion of the screw shanks engage the plate holes which are tapered to engage mating tapers of a portion of the bone screw shanks.

5. (canceled)

6. (currently amended) The bone stabilizing system of claim 1, wherein the screws are fixed to the plate and the bone holes with an adhesive material.

Claims 7 – 11 (canceled).

12. (currently amended) The bone stabilizing system of claim 1, wherein the screws have self tapping screw threads.

13. (canceled)

14. (currently amended) A bone stabilizing method, using plates with holes and bone screws for the purpose of fixing one bone segment with respect to one or more other bone segments or implants within a bone column comprising the following steps:

(a) providing the system components of claim 4, and

(b) machining holes in the bone segments for the purpose of retaining the engagement of the bone screws and retaining fixation of the plate to the bones, and

(c) placing the screws, with a shank portion and a head portion configured and sized to be affixed by an interference fit within the plate hole and also affixed within a portion of the machined holes in the bone.

15 – 26 (canceled)

27 (new) A bone fixation device using a plate with holes and screws, where the screws have a threaded portion and an unthreaded portion of a shank extending through the plate holes and extending into machined holes in the underlying bone with an interference fit, for the purpose of fixing one bone segment with respect to one or more other bone segments or with respect to an implant.

28. (new) The fixation device of claim 27 where the unthread portion of the shank is tapered.

***Clean Version Of The Amended Claims Renumbered***

This listing will replace all prior versions, and listings, of claims in the application: Even though a clean copy is no longer required, because of the extensive amendments in the claims, this clean version of the amended claims is enclosed for reference when examining the marked-up amended claims required by 37 CFR 1.121(b)(1)(ii).

We claim:

1) A bone stabilizing system, having a rigidizing plate with holes and two or more bone screws, for the purpose of fixing one bone segment, within a bone column, with respect to one or more other bone segments or an implant within the bone column, the stabilizing system containing:

(a) the bone screws, with a head portion having a driving feature which is engaged by a driving tool, a plate shank portion, a threaded portion, and a bone shank portion extending through the plate holes and into machined and threaded holes in the underlying bone for a distance of 1mm or greater, and

(b) the rigidizing plate, with holes to receive the bone screws for the purpose of retaining the plate to the bone segment, and

(c) the bone screw's plate shank portion, is configured and sized to make an interference fit within the plate holes and the screw's bone shank portion is configured and sized to make an interference fit within the bone shank portion of the machined holes in the bone segments.

2. The bone stabilizing system of claim 1, wherein the interference fit portion of the bone screws contain one or more locking tapers which extend into the bone and engage mating tapers in the bone.

3. The bone stabilizing system of claim 2, wherein a portion of the screw shanks engage the plate holes which are tapered to engage mating tapers of a portion of the bone screw shanks.

4. The bone stabilizing system of claim 1, wherein the screws are fixed to the plate and the bone holes with an adhesive material.

5. The bone stabilizing system of claim 1, wherein the screws have self tapping screw threads.

6. A bone stabilizing method, using plates with holes and bone screws for the purpose of fixing one bone segment with respect to one or more other bone segments or implants within a bone column comprising the following steps:

- (a) providing the system components of claim 3, and
- (b) machining holes in the bone segments for the purpose of retaining the engagement of the bone screws and retaining fixation of the plate to the bones, and
- (c) placing the screws, with a shank portion and a head portion configured and sized to be affixed by an interference fit within the plate hole and also affixed within a portion of the machined holes in the bone.

7 A bone fixation device using a plate with holes and screws, where the screws have a threaded portion and an unthreaded portion of a shank extending through the plate holes and extending into machined holes in the underlying bone with an interference fit, for the purpose of fixing one bone segment with respect to one or more other bone segments or with respect to an implant.

8. The fixation device of claim 7 where the unthread portion of the shank is tapered.